

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 August 2001 (30.08.2001)

PCT

(10) International Publication Number
WO 01/63455 A3

(51) International Patent Classification⁷: **H02J 3/00**,
G06F 17/60

(21) International Application Number: PCT/US01/05632

(22) International Filing Date: 21 February 2001 (21.02.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/184,897 25 February 2000 (25.02.2000) US
09/748,533 22 December 2000 (22.12.2000) US

(71) Applicant (for all designated States except US):
SMARTENERGY.COM, INC [US/US]: 300 Unicorn Park Drive, Woburn, MA 01801 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHANDRA, Gautam** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn

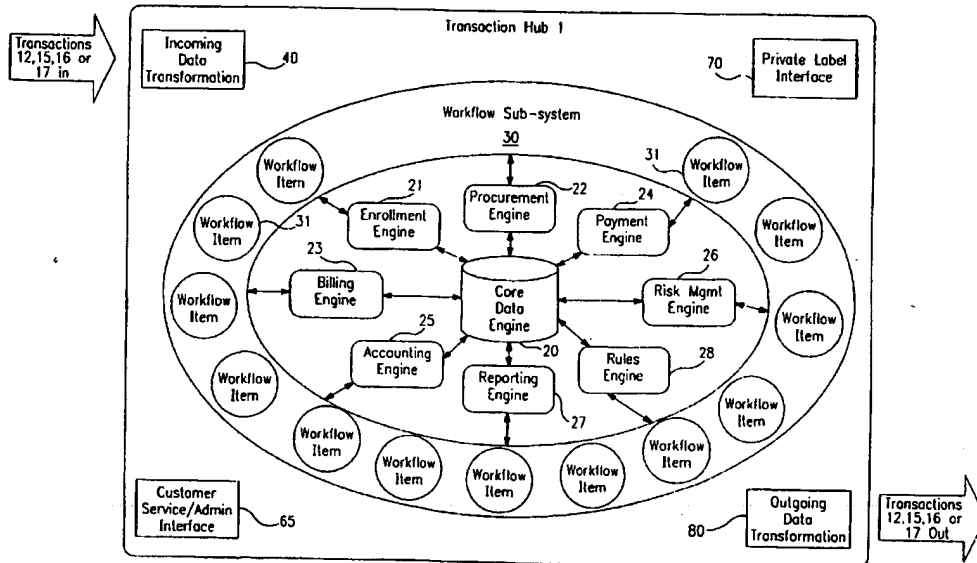
Park Drive, Woburn, MA 01801 (US). **ROTHMAN, Elisha** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **FLEISIG, Jonathan** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **PERLMAN, William** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **BENIGNO, Mark** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **GROSS, Todd, J.** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **LOPEZ-LOPEZ, Anthony** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **SORENSEN, Jon** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US). **MOORE, Douglas** [US/US]: c/o SmartEnergy.com, Inc., 300 Unicorn Park Drive, Woburn, MA 01801 (US).

(74) Agents: **CHOW, Stephen, Y. et al.**; Perkins, Smith & Cohen, LLP, One Beacon Street, 30th floor, Boston, MA 02108 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,

[Continued on next page]

(54) Title: SYSTEM AND PROCESS FOR TRANSACTIONAL INFRASTRUCTURE FOR ENERGY DISTRIBUTION



(57) Abstract: A system and process for providing a transaction infrastructure for matching user demand for a commodity such as energy across multiple sources and levels of distribution. A transaction hub is provided that normalizes transaction information across a plurality of distribution points. Scheduling and billing of users is managed at the hub, allowing fine and dynamic load balancing across multiple sources and levels.



DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

Published:

— with international search report

(88) Date of publication of the international search report:

2 May 2002

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT, 01/05632

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H02J3/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H02J G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 5 794 212 A (MISTR JR ALFRED F) 11 August 1998 (1998-08-11) abstract column 3 column 4 column 5, line 28 - line 51 column 10, line 19 - line 40 figure 1 ---	1,2,4-8, 13,15 9-12,14
X	US 5 237 507 A (CHASEK NORMAN E) 17 August 1993 (1993-08-17) abstract column 3, line 29 - line 60 ---	1,2,7,8, 14
Y	WO 99 62161 A (OTTER TAIL POWER COMPANY) 2 December 1999 (1999-12-02) page 3, line 31 - line 35 abstract ---	9-12,14
	--- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

21 September 2001

Date of mailing of the international search report

04.02.2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx: 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Marannino, M

INTERNATIONAL SEARCH REPORT

International Application No

PCT, , 01/05632

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MAKKONEN S ; LAHDELMA R: "Analysys of Power Pools in the Deregulated Energy Market through Simulation" PROCEEDING OF THE 32ND HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES, 1999, pages 1-9, XP002178157 Hawaii paragraph [0001] figure 1 -----	1-15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/05632

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-2, 4-15

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-2, 4-15

System for distributing a commodity to multiple users comprising a transaction hub including storage for information on supply, storage for information on demand, logic matching said supply and demand information; at least two distributions nodes.

2. Claims: 16-36

Process and system for distributing a commodity users comprising the normalization of supply information.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT, J 01/05632

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5794212	A	11-08-1998	AU 7118596 A WO 9738385 A1	29-10-1997 16-10-1997
US 5237507	A	17-08-1993	NONE	
WO 9962161	A	02-12-1999	AU 4217999 A EP 1104590 A1 WO 9962161 A1	13-12-1999 06-06-2001 02-12-1999